

CHARGE NUMBER: 1005
PROJECT TITLE: Improved Semiworks Operations
PROJECT LEADER: J. F. Sherwood
PERIOD COVERED: April, 1980
DATE OF REPORT: May 8, 1980

I. Primary Processing

A. WS Application

An MSA combustible gas indicator calibrated for ethanol was purchased and used to measure the concentrations of ethanol in air in and around the equipment used to apply WS to tobacco in the Pilot Primary. The measurements showed that ethanol concentrations in the after-cut cylinder can exceed 60% of the lower explosive limit (LEL) when WS/ethanol solutions are applied to tobacco. According to Manufacturing guidelines an explosion suppression system must be used in equipment where the possibility of exceeding 60% of the LEL exists. Therefore, plans are to install a Fenwal explosion suppression system, similar to those used in Manufacturing, on the after-cut cylinder in the Pilot Primary.

Also, two modifications were made to the equipment to improve safety during after-cut spraying. The blade in the cylinder exhaust fan was replaced with a nonsparking aluminum blade and additional exhaust was added to the cylinder discharge hood to reduce ethanol concentrations both in the hood and on the cylinder discharge conveyor.

B. Cut Width Study

A study to investigate the effect of cut width, ranging from 20-60 cuts/in, on blend and cigarette properties is in progress. Sieve, CV/OV, and maker efficiency data have been collected and forwarded to Mr. J. E. Tindall for analysis. Analytical and compacimetric firmness testing of cigarettes produced in this test is in progress.

II. Cigarette Making and Packing

A. High Speed Seam Sealing

The Kaymich adhesive application system used with the National 25-1088 PVA liquid side seam adhesive was installed for evaluation on a Mark 9-5 maker (4A7) in the MC on April 30, 1980. Both the applicator and the adhesive appear to be functioning well and MC QA personnel are monitoring the quality of the cigarettes produced in this evaluation.

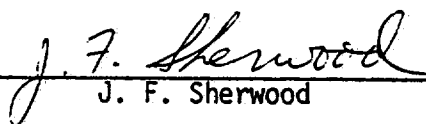
Marlboro and Merit cigarettes for two POL tests (N-3121 and N-4139) of the Polymer Industries 428-156-1 PVA liquid side seam adhesive passed subjective testing by the Flavor Development group as well as analytical testing, and were released for shipment.

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B. Pneumatic Feeder Evaluation

A test run at the request of Manufacturing to evaluate the firmness characteristics of Marlboro cigarettes made with tobacco conveyed by two pneumatic feeders under evaluation in the MC, one made by Hauni and the other by Cardwell, was completed. In the first part of the test, the Hauni feeder supplied the first four makers in line 2A and the Cardwell system the second four. In the second part of the test, the feeders were switched to avoid any maker effects.

The results showed no evidence of any significant differences in the equilibrium firmness levels of the cigarettes produced with tobacco conveyed by the two feeders.


J. F. Sherwood

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